UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF NEW YORK

GRADIENT ENTERPRISES, INC.,

Plaintiff,

DECISION AND ORDER

10-CV-6712L

v.

SKYPE TECHNOLOGIES S.A.,
SKYPE, INC.,

Defendants.

Plaintiff, Gradient Enterprises, Inc. ("Gradient") commenced this patent infringement action against defendants Skype Technologies S.A. ("Skype S.A.") and Skype, Inc. (collectively "Skype"). Gradient owns U.S. Patent No. 7,669,207 ("the patent" or "'207 patent"), which was issued in 2010 for a "Method for Detecting, Reporting and Responding to Network Node-Level Events and a System Thereof." The claimed invention relates generally to technology concerning computer networks, as explained in more detail below.

In the original complaint, Gradient pleaded three causes of action, seeking damages and injunctive and declaratory relief, based on allegations of direct, induced and contributory infringement. In March 2012, the Court issued a decision and order, 848 F.Supp.2d 404 (familiarity with which is assumed), granting defendants' motion to dismiss, on the ground that the complaint did not contain detailed-enough allegations to state a facially valid claim. The Court dismissed the complaint without prejudice, and granted plaintiff leave to file an amended complaint complying with federal pleading rules and standards. *Id.* at 410.

Plaintiff then filed an amended complaint (Dkt. # 38). The amended complaint asserts five causes of action, for (1) direct infringement, (2) induced infringement, (3) contributory infringement,

(4) injunctive relief, and (5) declaratory relief. The first three causes of action all seek money damages, in an unspecified amount.

The meaning of certain claims of the patent are in dispute. Pursuant to the Court's scheduling order (Dkt. #110), the parties have submitted briefs addressing those claim terms. The Court has also conducted a so-called "*Markman* hearing" to aid the Court in determining the meaning of the disputed terms. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996)).

BACKGROUND

I. The Patent

Simply to recite the claims of the '207 patent will provide little guidance to the average reader, unfamiliar with computer programming. As stated in the "Summary" section of the patent, it describes a "system for detecting, reporting and responding to network node-level occurrences on a network-wide level," including "one or more first mobile agents," each of which "is hosted by one of a plurality of nodes in the network." '207 patent col. 1, lines 44-49. The patent further describes a "method and a program storage device readable by a machine and tangibly embodying a program of instructions executable by the machine" for performing certain functions, which are summarized in equally technical language occupying a further eleven lines of text. *Id.* lines 55-67.

In relatively plain English, the claimed invention relates to a purported improvement for computer security within computer networks. As the patent explains, "[c]urrent network security systems [such as virus scanners and intrusion detection systems] are primarily insular," meaning that "they lack the capability and inherent architecture to address attacks from a group perspective." *Id.* lines 24-29. The problem with such a system, according to the patent, is that if a single server within the system is compromised, "a malicious entity may gain control of the entire system." *Id.* lines 35-36.

The patent states that the claimed invention addresses these problems "by distributing control of a network throughout the nodes [*i.e.*, connected computers, *see* § III (J)*, infra*] of the network ... ." *Id.* col. 2 lines 2-3. In short, the patent describes a "fault tolerant" system in which, "[e]ven if every node is disabled," the system will be able to restore itself to a protected state. *Id.* at lines 14-16.

At any given time, the patent states, one "controlling mobile agent" (the definition of which will be addressed below) will pass on information to the rest of the network about "events" (such as a virus attack) that might affect the entire system. If the controlling mobile agent is rendered unavailable, another mobile agent will take over that "controlling" role. Thus, the system is designed to decentralize control over a computer network, such that the system will continue to function, in a protected state, no matter what happens to individual nodes within the system.

The patent contains three independent claims, each of which is followed by twelve dependent claims. The first independent claim, Claim 1, is a method claim. The second independent claim, Claim 14, covers a computer-readable medium. The third independent claim, Claim 27, is a system claim. In general, these types of claims respectively relate to a method for performing certain tasks, a medium containing program code for performing that method, and a system for performing that method. *See Alice Corp. v. CLS Bank Int'l*, __ U.S. __, 134 S.Ct. 2347, 2353 (2014) (briefly describing these three types of claims).

II. 35 U.S.C. § 112(f)

A. General Principles

Before undertaking an analysis of the specific claims at issue, the Court must address Skype's contention that some of the claims of the '207 patent are invalid for indefiniteness based on 35 U.S.C. § 112(f).[1] That section provides that

[1]Subsection 112(f) of Title 35 was formerly designated as § 112, ¶ 6. The redesignation (continued...)

> [a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Claims covered by this provision are commonly referred to as "means plus function" claims. As explained by the Court of Appeals for the Federal Circuit, this statute "allows a patentee to express an element of a claim as a means for performing a specified function. In exchange for using this form of claiming, the patent specification must disclose with sufficient particularity the corresponding structure for performing the claimed function and clearly link that structure to the function." *Triton Tech of Texas, LLC v. Nintendo of America, Inc.*, 753 F.3d 1375, 1378 (Fed. Cir. 2014) (citations omitted). *See also Noah Systems, Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed. Cir. 2012) ("A structure disclosed in the specification qualifies as a 'corresponding structure' if the specification or the prosecution history 'clearly links or associates that structure to the function recited in the claim'") (quoting *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)).

Under 35 U.S.C. § 112(f), "a means-plus-function clause is indefinite if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim." *Noah Systems*, 675 F.3d at 1312 (internal quote omitted). "The amount of detail that must be included in the specification depends on the subject matter that is described and its role in the invention as a whole, in view of the existing knowledge in the field of the invention." *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1385 (Fed. Cir. 2011).

In the case at bar, Skype contends that the system claims, *i.e.*, Claim 27 and its dependent claims, are invalid under § 112(f) because the patent fails to disclose adequate structure

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[1](...continued)
did not effect any substantive changes. Except when quoting from other sources, this Court will use the current designation throughout this Decision and Order, but references in either form should be understood as referring to the same provision.

corresponding to the claimed function. Specifically, Skype asserts that the patent is deficient because it does not disclose any particular algorithm for performing the recited function.

In response to defendants' motion, Gradient has argued that it is premature for the Court to decide issues relating to the patent's validity. At the *Markman* hearing, counsel for plaintiff opined that "it's premature on this record to decide that issue," and that "at this point in this Court on this issue I do not believe that it is appropriate for the Court to weigh in and say claim 27 is invalid under 112(6)." Transcript ("Tr.") (Dkt. #130), at 17, 19-20.

Plaintiff's assertion notwithstanding, issues relating to claim validity can, and often are, decided in the context of claim construction. *See*, *e.g.*, *Williamson v. Citrix Online, LLC*, __ F.3d __, 2015 WL 3687459 (Fed. Cir. 2015) (affirming judgment of invalidity under 35 U.S.C. § 112 as to some patent claims, rendered by district court in its claim construction order); *Triton Tech.*, 753 F.3d 1375 (affirming district court decision ruling, issued in context of claim construction, that patent was invalid because it disclosed no algorithm for performing claimed computer-based function); *see also Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed.Appx. 988, 992 n.1 (Fed. Cir. 2014) (stating that there is no requirement that the district court engage in claim construction before making a validity determination under 35 U.S.C. § 101).

Although Skype has not moved for a judgment of patent invalidity, its claim construction papers raise issues that bear upon the validity of the system claims. While there may be situations when it makes more sense to defer deciding matters going to patent validity until after disputed claims have been construed, to attempt an artificial separation of the issues in this case would serve no useful purpose. Issues concerning claim validity are frequently intertwined with claim construction issues, as they are here, and cannot be easily or usefully separated. *See ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012) ("indefiniteness [under § 112] is a question of law and in effect part of claim construction"); *see also Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir.1999) ("if the only claim construction that is consistent with the claim's language and the written description renders the claim invalid, then ... the claim is simply invalid").

See also EON Corp. IP Holdings LLC v. AT & T Mobility LLC, 785 F.3d 616, 620 (Fed. Cir. 2015) (noting that a "court's determination of the structure that corresponds to a particular means-plus-function limitation is indeed a matter of claim construction").

Despite its assertion that the Court should not now reach issues relating to validity under § 112(f), Gradient has addressed those issues. First, Gradient contends that § 112(f) does not even apply here. In support of that assertion, Gradient cites the Manual of Patent Examining Procedure ("MPEP"), which states that § 112(f) "will not apply if persons of ordinary skill in the art reading the specification understand the term ['means' or 'step'] to be the same for the structure that performs the function ... ." MPEP, http://www.uspto.gov/web/offices/pac/mpep/, at 319 § 2181. Gradient also cites several cases applying that rule. Gradient contends that Claim 27's recitation of "a designation system," "an event detection system," and "a reporting system" would be understood by one of ordinary skill in the art as defining the "structure," *i.e.*, the software instructions, needed to perform the stated function.

Unsurprisingly, there is a growing body of case law concerning the application of § 112(f) to computer software. The Federal Circuit has stated that where a function is to be performed by a computer, "then the specification must also disclose the algorithm that the computer performs to accomplish that function. Failure to disclose the corresponding algorithm for a computer-implemented means-plus-function term renders the claim indefinite." *Triton Tech*, 753 F.3d at 1378 (affirming district court's determination that the asserted claims of the patent were indefinite because the specification did not disclose an algorithm for performing the claimed function of the "integrator means").[2] *See*, *e.g.*, *Augme Technologies, Inc. v. Yahoo! Inc.*, 755 F.3d 1326, 1337 (Fed. Cir. 2014) (since the claimed "means for assembling" was a computer-implemented means-plus-function

[2]As the Federal Circuit has explained, an algorithm is "a step-by-step procedure for solving a problem" or for "accomplishing a given result." *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1384-85 (Fed. Cir. 2011)

limitation, the specification was required to disclose an algorithm for performing the claimed function in order to meet the definiteness requirements of § 112(f)).

The algorithm may be expressed in "any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure." *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008) (citations omitted). "But it must disclose *some* algorithm; it cannot merely restate the function recited in the claim." *Id. See also Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013) ("It is well settled that '[s]imply disclosing software, ... without providing some detail about the means to accomplish the function[,] is not enough'") (quoting *Noah Systems*, 675 F.3d at 1312) (additional internal quote omitted).

Generally speaking, however, a mean-plus-function patent need not set forth the "means" in minute detail. As that principle applies to computer software, the patentee is not "required to produce a listing of source code or a highly detailed description of the algorithm to be used to achieve the claimed functions in order to satisfy" § 112(f). *Aristocrat Technologies Australia Pty Ltd. v. International Game Tech.*, 521 F.3d 1328, 1338 (Fed. Cir.), *cert. denied*, 555 U.S. 1070 (2008). Instead, "the patent need only disclose sufficient structure for a person of skill in the field to provide an operative software program for the specified function." *Typhoon*, 659 F.3d at 1385.

"[T]he amount of detail that must be included in the specification depends on the subject matter that is described and its role in the invention as a whole, in view of the existing knowledge in the field of the invention." *Id.* But "[w]hile it is true that the patentee need not disclose details of structures well known in the art, ... the specification must nonetheless disclose some structure." *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1302 (Fed. Cir. 2005) (explaining that even "the testimony of one of ordinary skill in the art cannot supplant the total absence of structure from the specification"). *See also Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1097 (Fed. Cir. 2014) (if court determines that § 112(f) applies and is "unable to identify any

'corresponding structure, material, or acts described in the specification,' the claim term is indefinite") (quoting *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1312 (Fed. Cir. 2012)).

In the case at bar, Gradient's attorney candidly conceded at oral argument that "there's no algorithm in the patent ...," but he went on to argue that no disclosure of an algorithm is required here in the first place." Counsel stated that Gradient would "be able to produce an expert who will say that a person of ordinary skill in the art would understand what was needed in order to give structure to claim 27." Tr. at 33.

Courts "will not apply § 112, ¶ 6 if the limitation contains a term that is used in common parlance or by persons of skill in the pertinent art to designate structure." *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1299 (Fed. Cir. 2014) (internal quotes omitted). As stated, though, even if the patent relates to structures that are well known in the art, "the specification must nonetheless disclose *some* structure." *Function Media*, 708 F.3d at 1318 (quoting *Default Proof*, 412 F.3d at 1302) (alteration in original).

Of especial relevance to this case, the Federal Circuit has stated that "the testimony of one of ordinary skill in the art cannot supplant the total absence of structure from the specification." *Default Proof*, 412 F.3d at 1302. *See also Function Media*, 708 F.3d at 1319 (having failed to provide any disclosure of the structure for a certain function, plaintiff could not "rely on the knowledge of one skilled in the art to fill in the gaps"). Thus, plaintiff's assertion that it will "be able to produce an expert" at some point, even if true, cannot remedy the absence of an adequate disclosure of structure in the patent. *See also EON Corp.*, 785 F.3d at 624 ("Where the specification discloses no algorithm, the skilled artisan's knowledge is irrelevant").

I also note that the Federal Circuit has recently made it easier to show that a claim is a means-plus-function claim subject to § 112(f). In *Williamson*, the court abandoned its prior rule "characterizing as 'strong' the presumption that a limitation lacking the word 'means' is not subject to [§ 112(f)]." __ F.3d at __, 2015 WL 3687459, at *7. The court summarized the correct standard as follows:

> The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. When a claim term lacks the word "means," the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to "recite sufficiently definite structure" or else recites "function without reciting sufficient structure for performing that function."

Id.

In so ruling, the court concluded that its prior rule that "the presumption flowing from the absence of the term 'means' is a strong one that is not readily overcome" was "unwarranted, [wa]s uncertain in meaning and application, and ha[d] the inappropriate practical effect of placing a thumb on what should otherwise be a balanced analytical scale," in the sense that it had "resulted in a proliferation of functional claiming untethered to [§ 112(f)] and free of the strictures set forth in the statute." *Id.* In other words, under the circuit's prior rule, it had become too easy for patentees to avoid the requirements of § 112(f), simply by omitting to use the word "means" in the patent.

B. Application to this Case

Judged by the standards set forth above, I conclude that Claim 27, and its dependent claims, are means-plus-function claims subject to § 112(f). I also conclude that they are invalid for failure to disclose an algorithm to perform the claimed functions.

Claim 27 sets forth, in broad terms, a computer-based system for performing certain functions. To the extent that the patent describes the claimed system, it does so in terms of the functions performed by the system. In other words, the patent describes what the system does, without disclosing how the system does it.

Claim 27 describes a "system for detecting, reporting and responding to network node-level occurrences on a network-wide level," comprising, in part: "a designation system that designates" one or more "mobile agents" to perform certain functions, when certain events occur; "an event detection system that communicates" certain information; and a "reporting system that disseminates" certain information. Patent cols. 9-10. The dependent claims similarly claim a system wherein the

system set forth in Claim 27 "determines," "selects," "utilizes," "disseminates," "notifies," "responds," "protects," and so on.

But the claim does not set forth any algorithms needed to perform those functions. The patent also states that the system "utilizes at least one of a voting and an artificial intelligence algorithm" to carry out certain tasks, *id.* at col. 10 lines 10-11, but it does not disclose those algorithms.

The Federal Circuit has explained that with respect to computer-based functions, the key to whether disclosure of the algorithm is required is whether those functions can typically be performed by "any general purpose computer without special programming." *EON Corp.*, 785 F.3d at 621 (quoting *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1316 (Fed. Cir. 2011). If special programming is required, then the corresponding algorithm must be disclosed. *See id.* (stating that "[i]t is only in the rare circumstances where any general-purpose computer without any special programming can perform the function that an algorithm need not be disclosed") (quoting *Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1364, 1365 (Fed. Cir. 2012)). *See*, *e.g.*, *TecSec, Inc. v. IBM Corp.*, 731 F.3d 1336, 1348 (Fed. Cir. 2013) ("for these limitations to avoid indefiniteness, the specification must disclose a special purpose computer as corresponding *structure–i.e.*, a computer programmed to perform a disclosed algorithm"). Based on the evidence before me, I conclude that the functions set forth in the patent are not, on their face, simple functions that could be performed by any general-purpose computer or microprocessor, without special programming. Those claims are written in general terms, but they provide virtually no guidance as to how the desired result is to be achieved. Special programing is required to permit the system to do what the patent teaches.

As explained above, Gradient's assertion that a person of ordinary skill in the art would understand the claims, and how to come up with a structure that would allow them to be performed, misses the mark. It is not enough to show that a person of skill in the art might be able to choose an appropriate algorithm and program it into a computer; the patent itself must still disclose such an

algorithm. *Triton Tech*, 753 F.3d at 1379. Plaintiff's argument goes to the issue of enablement, which is distinct from that of the disclosure requirement of § 112(f). *See EON Corp.*, 785 F.3d at 624; *Blackboard, Inc. v. Desire2Learn, Inc.,* 574 F.3d 1371, 1385 (Fed. Cir. 2009); *Aristocrat Technologies*, 521 F.3d at 1336.

The Court therefore concludes that Claims 27 through 39 are invalid for indefiniteness under 35 U.S.C. § 112(f).

III. Claims at Issue

A. "Mobile Agent"

One of the most frequently used terms in the patent is "mobile agent." Claim 1, for example, claims a method comprising "a plurality of mobile agents," each of which "is hosted by one of a plurality of nodes in a network," "designating one of the mobile agents hosted at one of the nodes as a controlling mobile agent," and so on. '207 patent col. 7. The term "mobile agent" appears scores of times in the patent.

Gradient contends that "mobile agent" should be construed to mean "a software module hosted by one or more nodes of the network that provides decentralized, distributed, mobile control of the system in a network, thereby ensuring the system is fault tolerant." Plaintiff's Claim Construction Brief ("PCCB") (Dkt. #111) at 4. Gradient then expands upon its proposed construction, adding that "[o]ne characteristic of the mobile agents is that they comprise data containing the state of the system," which is "maintained on all the nodes." *Id.* Gradient goes on to explain that the "state of the system includes nodes related metadata such as a list of nodes available for hosting a controlling mobile agent." *Id.* at 10.

Skype proposes that "mobile agent" should be construed to mean "programmed instructions stored in memory for execution by a processor to provide real-time, active protection of a computer system or network." Defendants' Claim Construction Brief ("DCCB") (Dkt. #112) at 9.

"Claim construction begins with the language of the claims." *Kaneka Corp. v. Xiamen Kingdomway Group Co.*, __ F.3d __, 2015 WL 3613644, at *4 (Fed. Cir. 2015) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-14 (Fed. Cir.2005) (en banc)). When interpreting claim language, courts consult the intrinsic record, which includes the specification and prosecution history. *Phillips*, 415 F.3d at 1315-17. The specification is "the single best guide to the meaning of a disputed term." *Id.* at 1315 (citation omitted).

At the same time, "limitations from parts of the written description, such as the details of the preferred embodiment, cannot be read into the claims absent a clear intention by the patentee to do so." *MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1255 (Fed. Cir. 2012). The court must consider both the patentee's intent, and the understanding of one of ordinary skill in the art. *See Laryngeal Mask Co. Ltd. v. Ambu*, 618 F.3d 1367, 1372 (Fed. Cir. 2010) (patentee can act as "his own lexicographer" by using a "special definition of the term [that] is clearly stated in the patent specification or file history"; otherwise, patent term will be given its ordinary meaning as understood by one of ordinary skill in the art) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1580 (Fed. Cir.1996)).

The specification states, in the "detailed description," that "[e]ach of the mobile agents comprises programmed instructions stored in each of the memories for execution by each of the processors to provide real-time, active protection of a computer system or network." It then adds that "[m]ore specifically, each of the mobile agents comprises programmed instructions which include data tables containing the state of the system, although each of the mobile agents can comprise other types of programmed instructions including other data." '207 patent col. 4 lines 10-19.

Nowhere does the patent use the term "decentralized," which is one of the terms suggested by plaintiff. That does not mean that the definition of "mobile agent" could not include that term, but again the Court is primarily guided by the specification. "Decentralized" appears to be a part of

plaintiff's characterization of what a mobile agent does, or how it fits into the claimed system as a whole.

That may be a fair characterization of the invention, which is claimed to "distribut[e] control of a network throughout the nodes of the network, such as computer systems and other programmable machines, themselves with a mobile agent." *Id.* col. 2 lines 2-3. The patent goes on to state that "[t]he mobile agent is 'hosted' by one of the network nodes, but can be dispatched from node to node and is not restricted to any particular node. As a result, control of the system in a network is non-central and mobile." *Id.* lines 5-8.

But while the Court should construe the claim terms in the context of the claimed invention, that does not mean that the Court should expand those terms so broadly as to simply describe the basic concept behind the invention. Gradient's proposed definition of "mobile agent" goes well beyond what a mobile agent *is*, to describe what it *does*, and how it is used in the overall invention. For example, while the patent does refer to each mobile agent as being "hosted by one of a plurality of nodes in a network," *id.*, col. 7 lines 34-36, that is not part of the definition of "mobile agent."

I also note that in its reply brief, Gradient states that "the term 'Mobile Agent' is well known in the computer software and network systems universe to mean something much more broad than network security." Dkt. #116 at 10. That assertion lacks support in the record, gives the Court no guidance on how to construe the term, and I do not accept it.

For the reasons stated above, then, I construe "mobile agent" in accordance with the language of the patent itself, and hold that "mobile agent" means "programmed instructions stored in memory for execution by a processor to provide real-time, active protection of a computer system or network. More specifically, a mobile agent comprises programmed instructions which include data tables containing the state of the system, although a mobile agent can comprise other types of programmed instructions including other data."

B. "Controlling Mobile Agent"

The concept of a "controlling mobile agent" is central to the claimed invention. The patent claims a method which, in part, involves: "designating one of the mobile agents hosted at one of the nodes as a controlling mobile agent"; "designating another one of the mobile agents hosted at another one of the nodes as the controlling mobile agent when the one of the mobile agents previously designated as the controlling mobile agent is unavailable"; communicating and disseminating certain information to and from the controlling mobile agent; and so on. Patent col. 7 lines 37-48. The medium claim likewise repeatedly refers to the use of a controlling mobile agent. *See* Patent col. 8 lines 36-55.

Gradient contends that "controlling mobile agent" should be construed to mean "one or more mobile agents designated to be a controlling mobile agent." PCCB at 10. Plaintiff then adds to that tautological definition that "there may be more than one controlling mobile agent in the network," that "the one or more controlling mobile agents receive information from, and transmit information to, one or more nodes," and that the controlling mobile agent "is not restricted to any one particular node but may be implemented on any of the nodes." *Id.* at 10-11.

Defendants' proposed construction of "controlling mobile agent" is "a single mobile agent that receives information about an event, checks that information against stored data, and transmits information about that event." DCCB at 13. The crux of the dispute over this term, then, concerns whether "controlling mobile agent" should be construed to mean "a single mobile agent" or "one or more mobile agents."

Again, the Court starts with the language of the claims themselves. As the above-quoted language of Claim 1 indicates, the claim refers to designating "one" mobile agent as "a controlling agent," and to various operations involving "the controlling agent." Claim 14 and its various dependent claims are similar in that regard. On their face, the claims themselves do not indicate that there can be more than one controlling agent at any one time.

Gradient, however, points to language in the specification suggesting that there may be more than one controlling agent. The detailed description states, for example, that "[o]ne or more of the nodes [displayed in Fig. 1 of the patent] may be hosting a controlling *one or more* of the mobile agents ... ." Patent col. 4, lines 43-44. It further states that "[a]lthough in these embodiments [illustrated in Fig. 1] one node ... hosts only one controlling mobile agent ..., the one node can host other *numbers of controlling mobile agents*." Patent col. 4 at lines 55-56 (emphasis added).

Besides the language of the claims themselves, Skype refers, in support of its position, to the prosecution history. A patent's prosecution history, "as part of the intrinsic record, has an important role in claim construction by supplying context to the claim language," and in "provid[ing] evidence of how the inventor intended the term to be construed." *Aventis Pharms. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013).

The claims as originally set forth in Gradient's patent application required "one or more first mobile agents." In response to the rejection of the claims by the Patent and Trademark Office ("PTO") as obvious in light of prior art, Gradient amended the claims, generally deleting the words "one or more first [agents]" and adding language referring to "a controlling agent" or "the controlling agent." *See* Dkt. #112-1 at 83-88. In so doing, Gradient noted that the PTO had asserted that prior art had disclosed a method incorporating "one or more first agents," and asserted that the prior art did not disclose or suggest the use of a controlling agent, as set forth in the amended claim. *See id.* at 90-91.

Even after that amendment, however, the term "first mobile agent" continues to appear in the patent, albeit not in the claims. The abstract describes an "event detection system" in which information is communicated to "one or more first mobile agents," and a "reporting system" that "disseminates from the one or more first mobile agents information ... ." Patent at 1. The summary also repeatedly refers to "one or more first mobile agents." *See* Patent col. 1 lines 45-67. It is clear from the use of that term that it is used in the same way as the term "controlling agent" in the claims.

Courts have long held that claims should be construed not just in light of the specification, but consistent with the specification, including disclosed embodiments. *See*, *e.g.*, *ERBE Elektromedizin GmbH v. International Trade Commission*, 566 F.3d 1028, 1034 (Fed. Cir. 2009) ("We generally do not construe claim language to be inconsistent with the clear language of the specification"); *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1305 (Fed. Cir. 2007) (adopting the ordinary meaning of the claim term that included the disclosed examples in the specification); *Scott & Williams v. Whisnant*, 126 F.2d 19, 20 (4th Cir. 1942) ("It is elementary in the law of patents that claims must be read and interpreted in the light of specifications. 'It is further true that specifications and claims must harmonize. That is, we may and should turn to the specifications to see what the claims really mean, and the one should not be contradictory of the other'") (quoting *In Acme Card System Co. v. Remington-Rand Bus. Serv.*, 3 F.Supp. 254, 255 (D.Md. 1933)); *accord Z-Man Fishing Products, Inc. v. Renosky*, 790 F.Supp.2d 418, 426-27 (D.S.C. 2011).

While it is beyond dispute that "[t]he appropriate starting point [is] the language of the asserted claim itself," *Comark Communications, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998), the claim language is just that: a starting point. The court cannot simply take claim language at face value and leave it at that. Rather, "the words of the claims 'must be read in view of the specification, of which they are a part.'" *Voda v. Cordis Corp.*, 536 F.3d 1311, 1320 (Fed. Cir. 2008) (quoting *Phillips*, 415 F.3d at 1315). *See also Comark*, 156 F.3d at 1187 (indicating that court should "look[] to the specification to ascertain the meaning of a claim term as it is used by the inventor in the context of the entirety of his invention").

Applying these principles here, I conclude that the term "controlling mobile agent" should be interpreted to encompass one or more mobile agents designated to perform certain functions, specifically receiving and transmitting information about events affecting the system. At any given moment, there may be only one controlling mobile agent within the network, but the patent does not limit the claimed invention to one and only one controlling mobile agent.

Such a reading harmonizes the claim language with the specification. As stated, the latter repeatedly refers to "one or more first mobile agents," and reading the patent as a whole, it becomes clear that "first mobile agent" is essentially synonymous with "controlling mobile agent." The patent also expressly refers to "a controlling one or more of the mobile agents."

To adopt defendant's construction of "controlling mobile agent" as limiting the claims to the use of a single mobile agent could create an apparent inconsistency between the claims and the specification, which would in turn call into question of the validity of the patent. Such a result might well work to defendant's advantage, but if it can be avoided through a reasonable construction of the claim terms, the Court should do so. *See American Innotek, Inc. v. United States*, 113 F.3d 668, 686 (Fed. Cir. 2013) ("A maxim of patent law is that claims should be construed to preserve their validity"). *See also Commil USA, LLC v. Cisco Systems, Inc.*, __ U.S. __, 135 S.Ct. 1920, 1929 (2015) ("a patent is 'presumed valid'") (quoting 35 U.S.C. § 282(a)).

The patent stresses the "fault tolerant" nature of the system, "meaning that the system remains on-line whenever there is an available host for the mobile agent." Patent col. 2 lines 10-12. To that end, the patent calls for designating not just one controlling mobile agent at one node, but designating another mobile agent, hosted at another node, as the controlling mobile agent when the first-designated controlling mobile agent is unavailable. In layman's terms, a certain amount of backup is built into the system; if one controlling mobile agent fails, another mobile agent steps into its place.

Again, it may well be that at any given time, only one mobile agent is acting as a controlling mobile agent, but I do not read the patent as limiting the invention to the use of only one controlling mobile agent. To the contrary, the patent specifically states that "[o]ne or more of the nodes may be hosting a controlling one or more of the mobile agents," and that although the illustrations show only one node hosting one controlling mobile agent, "the one node can host other numbers of controlling mobile agents." Patent col. 4 at lines 55-56. It further refers to "a controlling one or ones of the mobile agents." *Id.* line 67. The best, if not the only, way to harmonize that language with

the claims is to read the claims' references to "a" or "the" controlling mobile agent as terms of convenience, using a hypothetical controlling mobile agent for illustrative purposes, rather than as terms of limitation.

Aside from the single-versus-multiple issue, the parties largely agree about what a controlling mobile agent actually does. Gradient states that a controlling mobile agent "receive[s] information from, and transmit[s] information to, one or more nodes," while defendant states that a controlling mobile agent "receives information about an event, checks that information against stored data, and transmits information about that event."

Accordingly, the Court construes "controlling mobile agent" to mean "a mobile agent that receives network event information associated with an event detected at one or more of the nodes in the network, and that disseminates information describing the detected event to one or more other nodes." I see no need at this time to construe this term in greater detail than that. Further explication of what a controlling mobile agent is, what it does, how it operates, and its overall function within the claimed system can be addressed as necessary at trial.

C. "Network Node-Level Occurrences" / "Events" / "Detected Events"/"Network Events"

The patent claims a "system for detecting, reporting and responding to network node-level occurrences on a network-wide level," which incorporates an "event detection system [that] communicates network event information associated with an event ... ." The parties dispute what is meant by the terms "occurrences" and "events" as used in the patent.

Plaintiff starts with the rather obvious observation that an "occurrence" is "something that occurs or happens," and that an "event" is "something that happens." PCCB at 9. From there, plaintiff proceeds to argue that as used in the patent, typically in conjunction with some reference to a network (*e.g.*, "network node-level occurrence"), these terms mean "something that happens at the nodes in the network." *Id.*

Skype takes a more restrictive view, and asserts that all these terms mean "attacks on a network-connected computer." DCCB at 19. The principal dispute over these terms, then, concerns whether they are limited to "attacks" on a computer or computer network, or whether they encompass a broader category of events.

The patent speaks to two types of "events" and "occurrences": malicious or potentially damaging events, and updates. The patent explains at the outset that the invention "relates generally to network communications and, more particularly, to a method and system for providing information associated with network events, such as a viral or unauthorized access attack ... ." Patent col. 1 lines 12-15. It states that "[c]urrent network security systems ... lack the capability and inherent architecture to address attacks from a group perspective," and that one of the drawbacks of insular systems "[i]f the sever [sic] is compromised, a malicious entity may gain control of an entire system." Patent col. 1 lines 24-37. The patent further states that "[n]ew attack patterns and forms of transmission change daily," and that the claimed invention is designed to address that problem. Patent col. 2 lines 32-33. It adds that "[w]ith the present invention, there is no inherent limit or defined boundary for the minimum or maximum number of nodes that may be protected." Patent col. 2 lines 40-42.

The independent claims refer to "network node-level occurrences"; only in the dependent claims does the patent state that the invention described in the independent claims can be used to protect against a "network-based attack associated with the detected event." But as stated, the claims must be read in light of the specification. *See United States v. Adams*, 383 U.S. 39, 50 (1966) ("it is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention"); *accord World Class Tech. Corp. v. Ornco Corp.*, 769 F.3d 1120, 1124 (Fed. Cir. 2014).

In short, the entire patent makes clear that the *raison d'etre* of the invention is to protect computer systems from attacks. The patent leaves open the possibility that the claimed invention

could be used for other purposes, but it does so in terms that are vague, with little if any guidance as to how it could be so used.

For example, the patent states in the detailed description that "one of the nodes ... which detected the event, responds to the event. By way of example only, if the event is an attack, the one of the nodes ... defends itself from the attack" by certain means. Patent col. 5 lines 41-43. A lengthy description of the use of virus protection modules follows.

Following that description, the patent states that "[w]hile the present invention has been described above utilizing complement technology, such as virus detection software, for example, one of ordinary skill in the art in the computer science, network resource management, and distributed network arts will appreciate that the systems and processes disclosed herein may be applied in a number of other network environments utilizing a variety of other complement technologies for detecting, reporting and responding to network events besides virus detection systems, such as any environment which requires a control structure where a distributed architecture is appropriate to the application scale." Patent col. 7 lines 4-15. It goes on to state that "[h]aving thus described the basic concept of the invention, it will be rather apparent to those skilled in the art that the foregoing detailed disclosure is intended to be presented by way of example only, and is not limiting." Patent col. 7 lines 16-19.

That language, however, appears to be little more than boilerplate, added to widen the scope of the claims. Simply to say that one of ordinary skill in the art will be able to come up with other applications for the claimed invention than what is described in the patent should not allow the patentee to claim more than what is actually disclosed in the claims and specification.

I recognize that the Federal Circuit has cautioned that courts should not automatically treat language concerning the purpose of a patented invention as limiting the claims. *See*, *e.g.*, *Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1368 (Fed. Cir. 2008) ("it is the purpose of the limitation in the claimed invention–not the purpose of the invention itself–that is relevant" to claim construction). *See also Applied Materials, Inc. v. Advanced Semiconductor Materials America, Inc.*,

98 F.3d 1563, 1572-73 (Fed. Cir. 1996) ("Whether a preamble stating the purpose and context of the invention constitutes a limitation of the claimed process is determined on the facts of each case in light of the overall form of the claim, and the invention as described in the specification and illuminated in the prosecution history").

The '207 patent, however, does not simply describe a process, and one possible use for that process. It describes an invention that is designed to respond to a certain type of event, generally described as an "attack," and to protect against computer viruses. Tossing in language that one of ordinary skill in the art may be able to conceive of other applications for the basic concept does not broaden the scope of the claimed invention. At a fundamental level, the invention, including the claims, is built on responding to "attacks," and the claims should be construed accordingly. *See Akeva L.L.C. v. Adidas Salomon AG*, 208 Fed.Appx. 861, 864 (Fed. Cir. 2006) (stating that "an inventor cannot get more than he or she invents") by adding a "catch-all phrase" in the specification intended to cover all possible embodiments and modifications of the claimed invention).

The specification does mention one other type of event: an "update." In describing one step reflected in Figure 1, the patent states that "the virus protection modules ... monitor for an event, such as an attack on one of the nodes ... or an update." Patent col. 5 lines 20-24. It later states that "[i]f the event is an update, then the one of the nodes ... with the controlling one of the mobile agents ... may obtain the updates," and then transmit information about the event to the rest of the network. Patent col. 5 lines 46-56.

Again, these descriptions must be read in context of the entire patent. The specification states that

> [n]ew attack patterns and forms of transmission change daily, and current systems utilizing out-dated protection software often leads to a compromised system. The present invention addresses these problems by coupling real-time network communication with self-updating facilities. This real-time communication serves to disseminate third-party updates to the entire network, ensuring that all clients have the same underlying degree of protection.

Patent col. 2 lines 31-39.

This reinforces the idea that the system is designed to provide security against computer viruses. Such protection would be of little use if the system were not equipped to deal with and respond to the latest viruses and other threats. Seen in that context, "occurrences," "events," and similar terms must be understood to refer both to attacks on a computer or computer network, and to updates intended to provide up-to-date protection against such attacks. No other "occurrences" or "events" are described, apart from the vague, open-ended intimation that others may exist, or that someone might someday conceive of another application for the invention. While it is understandable that a patentee will often want to throw as wide a net as possible when defining the claims, the patent here does not extend as far as plaintiff would like.

Accordingly, I construe the terms "network node-level occurrences," "events," "detected events," and "network events" to mean "attacks on a network-connected computer," as well as updates intended to maintain the currency of a computer's or computer network's protection against such events. If further elucidation of those terms is needed later, that can be dealt with at trial.

D. "Designating Another One of the Mobile Agents ..."

The patent claims a method and system for "designating another one of the mobile agents hosted at another one of the nodes as the controlling mobile agent when the one of the mobile agents previously designated as the controlling mobile agent is unavailable." Patent col. 7 lines 39-43; col. 8 lines 46-49.

The parties' dispute over the meaning of this term centers on the issue, discussed above, concerning whether there is only one, or possibly more than one, controlling mobile agent. In other words, the dispute centers, again, on whether the reference to "the" controlling mobile agent should be read as implying that there is only one controlling mobile agent.

As explained in section (B), *supra*, I do not so read the patent. Accordingly, the Court construes this terminology as meaning, "selecting and designating a mobile agent as a controlling mobile agent, when a previously designated controlling mobile agent becomes unavailable."

E. "Detecting" and "Reporting"

The patent claims a "method for detecting, reporting and responding to network node-level occurrences on a network-wide level ... ." Patent col. 7 lines 31-32. Gradient has asserted that these terms need not be construed at all, *see* PCCB at 12, and Skype has argued that they should be given their plain meaning.

To the extent that the parties can be said to agree on anything in this case, they have come close to an agreement as to these terms. The Court likewise concurs that the meaning of "detecting" and "reporting" are well within the ken of the average juror, both in general and as used in the patent. The Court therefore intends to instruct the jury to give these terms their commonly understood definitions.

F. "Responding"

Skype contends that the term "responding" should be construed to mean "defending from an attack." Gradient would have the Court construe it to mean "reacting to an event by transmitting information about the event to one or more nodes."

While, as set forth above, the Court generally agrees with Skype that the patent relates to protecting against "attacks," I find Gradient's proposed construction more persuasive. To equate "responding" with "defending from an attack" would not be helpful to the jury, as it does not describe *how* the system "responds" or what it means to "defend from an attack."

The patent itself explains how the system "responds" to an event. It does so by: "communicating network event information associated with an event detected at one or more of the nodes in the network to the controlling mobile agent; and disseminating from the controlling mobile

agent information describing the detected event to one or more other nodes." Patent col. 7 lines 39-43. The Court intends to so instruct the jury.

G. "Detecting, Reporting and Responding ... on a Network-Wide Level"

Although the parties seem to disagree about the meaning of this phrase, it is difficult to discern precisely how they disagree. Plaintiff has argued that the phrase need not be construed at all, and that the "network-wide level" component refers generally to communication among the nodes of the network. Skype asserts that the term refers to detecting, reporting and responding "throughout the entire network."

There does not seem to be any significant substantive difference between those two alternatives. The Court intends to instruct the jury that to the extent that the patent calls for certain actions to be taken "on a network-wide level," that means that the actions are to occur between and among all the nodes of the network.

H. "Disseminating"

Once again, the parties disagree about the meaning of what would at first blush seem to be a fairly commonplace term. The gist of the dispute centers on whether "disseminating" refers to transmitting information throughout the *entire* network. Skype would have the Court construe the term to mean "dispersing information network-wide," while Gradient proposes, "transmitting information about the detected event from the controlling mobile agent to one or more nodes in the network,"

Both as commonly understood and as used in the patent, "disseminating" does not imply who or what will be the receiver of whatever is disseminated. This term is also within the ken of the average juror, and to the extent that the Court defines it for the jury, I intend to say simply that

it means "transmitting," "distributing," or the like. To the extent that the patent speaks about how, or to what, information is disseminated, the patent speaks for itself. I do not view that as a proper matter for claim construction as to the term "disseminating."

I. "Designation System" / "Event Detection System" / "Reporting System"

While the parties disagree about the proper construction of the terms "designation system," "event detection system," and "reporting system," all these terms relate solely to Claim 27 and its dependent claims. Since the Court has found Claim 27 invalid under 35 U.S.C. § 112(f), *see* § II(B), *supra*, the dispute as to these terms is moot.

J. "Nodes"

While Skype accurately states that "no actual dispute appears to exist" as to the proper construction of "nodes," *see* Skype's Rebuttal Brief (Dkt. #118) at 23, the parties have nonetheless managed to devote some pages to this matter. Whatever dispute remains centers on whether "nodes" simply means "computer" (Skype's proposed construction) or "computing entities," including smart phones, tablets, and so on (Gradient's view).

Skype argues that claim terms should be construed as they would have been understood by a person of ordinary skill in the art at the time of the invention, and that they cannot be expanded to capture later-arising technologies that were never contemplated by the inventor. This case, however, does not present that issue. It is well known that computers have physically shrunk over the years, even as they have become more and more powerful. A handheld device today might have more computing power than a room-size computer of the 1950s. Such advancements are hardly unforeseeable; they have been going on for decades. I conclude, then, that "nodes" should be construed to mean any computer, as that term is commonly understood, whether it takes the form of a desktop computer, tablet, smart phone, or other computing device.

K. "Designating"

The patent calls for "designating one of the mobile agents hosted at one of the nodes as a controlling mobile agent," and "designating another one of the mobile agents hosted at another one of the nodes as the controlling mobile agent when the one of the mobile agents previously designated as the controlling mobile agent is unavailable." Both sides have identified the term "designating" as a bone of contention, but here, too, it is difficult to discern whether or how there is any actual disagreement between the parties.

Gradient has stated that "designating" should be given its ordinary meaning. PCCB at 13. Skype has likewise argued for giving "designating" its "plain meaning." Skype's Rebuttal Brief at 23. Both sides then proceed to explain what, in their view, that "ordinary" or "plain" meaning is.

Gradient states that as used in the patent, the term means that "when the previously designated controlling mobile agent becomes unavailable, another controlling mobile agent is selected from among the remaining mobile agents." Skype argues for the construction, "to select for a specific purpose."

Aside from Gradient's use of "designated" as part of its definition of "designating," both sides have again tried to cram more meaning into this seemingly commonplace term than it can reasonably contain. The parties are attempting to shoehorn into this word their broader views of the scope of the patent as a whole. I see no indication that the patentee here intended to give the term "designating" anything other than its commonly understood meaning, and I see no need to construe it further. To the extent that any synonyms might assist the jury, I note that both sides have used the verb "select," and the Court is prepared to use that term as well.

L. "Network Event Information"

The patent claims a system for "communicating network event information associated with an event detected at one or more of the nodes in the network to the controlling mobile agent ... ." The parties' proposed constructions of "network event information" are not significantly different,

except insofar as they differ as to the meaning of "event." The construction of "event" has been addressed in § III(C), *supra*, and need not be repeated here. Therefore, the Court construes "network event information" to mean information about an "event," as the Court has previously construed the term "event."

CONCLUSION

For the reasons stated above, the Court finds that claims 27 through 39 of United States Patent No. 7,669,207 are invalid for indefiniteness under 35 U.S.C. § 112(f).

The disputed terms of the remaining claims of United States Patent No. 7,669,207 are construed as stated in the body of this Decision and Order. At trial, the jury will be instructed on the meaning of those terms consistent with the Court's construction of the terms at issue.

IT IS SO ORDERED.

DAVID G. LARIMER
United States District Judge

Dated: Rochester, New York
September 22, 2015.